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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/895,702	06/29/2001	Brett E. Kugler	10015144-1	6470

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HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
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EXAMINER
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PEACHES, RANDY

ART UNIT	PAPER NUMBER
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2686

DATE MAILED: 02/26/2004

5

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/895,702

Applicant(s)

KUGLER, BRETT E.

Examiner

Randy Peaches

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. ***Claims 1-4, 8, 9, 17-19 and 20*** are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Howstuffworks***, "*How Disposable Cell Phones Will Work*" by Kevin Bonsor; June 21, 2001 edition, hereinafter referenced as "article", in view of Altschul et al (U.S. Patent Number 5,875,393), hereinafter referenced as patent "393", and in further view of Stephen Mraz of March 1, 2001 edition of ***Machine Design***, "Thin, flexible battery needs no case."

Regarding ***claims 1 and 17***, the article discloses a disposable cell phone and method comprising:

- a paper substrate, hereinafter referenced as "substrate", (see definition of ***paper*** in the cited reference *Webster's New Ninth Collegiate Dictionary*) manufactured as a poly-metric material, but later developed into a more practical paper substrate, as discussed in the referenced cited prior art article *Howstuffworks*, "*How Disposable Cell Phones Will Work*" on page 2.
- a printed circuit pattern on the said paper substrate. See page 1.

However, the article does not disclose a switch electrically coupled to the said circuit. In addition having an input diaphragm and output diaphragm electrically coupled to the said circuit, where both are attached to the said paper substrate in a manner that allows said input diaphragm and output diaphragm to vibrate.

Altschul et al teaches in patent 393:

- of a switch (52) that is coupled to an integrated circuit 70, hereinafter referenced as "circuit", providing a means of allowing a telephone call to be performed when placed in the "on" mode. See column 4 lines 45-60 and in FIGURE 6
- of a microphone assembly (122), which reads on claimed "input diaphragm", that is connected electrically to the said circuit, where the said microphone being attached to the said substrate by a clip connector (174), which in turn, allows the said microphone to, vibrated relative thereto. See column 7 lines 45-54 and FIGURES 14-16.
- of a earphone assembly (122), which reads on claimed "output diaphragm", that is connected electrically to the said circuit, where the said earphone being attached to the said substrate by a clip connector (174) which in turn, allows the said microphone to vibrated relative thereto. See column 7 lines 38-44 and FIGURES 14-16.
- a battery, providing power and connected to the said circuit by a means of an electrical connector, which reads on claimed "battery electrically connected to the circuit". See column 3 lines 54-62.

However, the combination of the article and patent 393 fail to teach of a battery formed in the said paper substrate.

The article "Thin, flexible battery needs no case." in the March 1, 2001 edition of **Machine Design**, reference is made of a battery developed by company Power Paper, Ltd, that is fabricated from proprietary ink-like materials that can be printed, pasted or laminated on almost any substrate, including paper.

Therefore, at the time of the invention it would have been obvious to a person of ordinary skilled in the art to modify the combined teaching of **Howstuffworks**, "How Disposable Cell Phones Will Work" by Kevin Bonsor; June 21, 2001 edition, hereinafter referenced as "article", in view of Altschul et al (U.S. Patent Number 5,875,393) to further include Stephen Mraz of the March 1, 2001 edition of **Machine Design**, "Thin, flexible battery needs no case." in order to develop a disposable cellular telephone manufactured out of a paper substrate in which the circuitry, functional components and power supply of the said cellular telephone is incorporated therein to provide a more compact and efficient structure.

Regarding **claim 2**, as claimed in **claim 1**, the article on page 2 teaches the said disposable cell phone completed will be 2 inches wide and 3 inches long.

Regarding **claims 3 and 19**, as claimed in **claim 1 and 19**, the article teaches of a disposable cell phone, where the said substrate has the utility and form of a credit card. In addition, patent 393 teaches of graphics being provided on front and rear face for

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proper display of information. The applicant is claiming that the said paper substrate is a business card including writing. Therefore it is obvious for one to apply the teaching of the article into a business card to achieve the compactness and utility of the said credit card.

Regarding **claims 4 and 20**, as claimed in **claim 1 and 17**, Altschul et al teaches in patent 393 of an antenna (134), which reads on claimed "filament antenna", which is embedded as part of body of said substrate. See column 7 lines 1-4 and FIGURE 10. Additionally, the said antenna is incorporated therein on the side, which reads on claimed "edge", of the said substrate.

Regarding **claim 8**, as claimed in **claim 1**, Stephen Mraz of March 1, 2001 edition of **Machine Design**, "Thin, flexible battery needs no case." teaches that the said battery is made from any substrate including paper.

Regarding **claims 9 and 18**, as claimed in **claims 1 and 17**, the article discloses on page 1-2, where metallic ink, which reads on claimed "conductive ink", is applied to said substrate in the pattern required for the circuit trace.

2. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of **Howstuffworks**, "How Disposable Cell Phones Will Work" by Kevin Bonsor; June 21, 2001 edition, hereinafter referenced as "article", and Altschul et al

(U.S. Patent Number 5,875,393), hereinafter referenced as patent "393", and Stephen Mraz of March 1, 2001 edition of ***Machine Design***, "Thin, flexible battery needs no case." in view of Woo (U.S. Patent Number 6,317,086 B1).

Regarding ***claim 5***, as the above combination ***Howstuffworks***, "*How Disposable Cell Phones Will Work*" by Kevin Bonsor; June 21, 2001 edition, hereinafter referenced as "article", and Altschul et al (U.S. Patent Number 5,875,393), hereinafter referenced as patent "393", and Stephen Mraz of March 1, 2001 edition of ***Machine Design***, "Thin, flexible battery needs no case." are made, the combination according to ***claim 4***, fails to disclose wherein the antenna includes a nub at one end, said nub being operable to extract the antenna from the substrate.

Woo teaches of an antenna (31) which includes a cap (41), which reads on claimed "nub", on the upper part of the said antenna (31), the said cap (41) allows easy extension, which reads on claimed "extract", from the antenna (31). See column 4 lines 60-65 and FIGURE 4.

Therefore, at the time of the invention it would have been obvious to a person of ordinary skilled in the art to modify the combined teachings of ***Howstuffworks***, "*How Disposable Cell Phones Will Work*" by Kevin Bonsor; June 21, 2001 edition, hereinafter referenced as "article", Altschul et al (U.S. Patent Number 5,875,393), hereinafter referenced as patent "393", and Stephen Mraz of March 1, 2001 edition of ***Machine Design***, "Thin, flexible battery needs no case." to further include Woo (U.S. Patent

Number 6,317,086 B1) in order to incorporate an antenna with a said cap for easy extraction from the said substrate.

3. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of **Howstuffworks**, "*How Disposable Cell Phones Will Work*" by Kevin Bonsor; June 21, 2001 edition, hereinafter referenced as "article", and Altschul et al (U.S. Patent Number 5,875,393), hereinafter referenced as patent "393", and Stephen Mraz of March 1, 2001 edition of **Machine Design**, "Thin, flexible battery needs no case." in view of Kawakami et al (U.S. Patent Number 5,933,783).

Regarding **claim 6**, as the above combination **Howstuffworks**, "*How Disposable Cell Phones Will Work*" by Kevin Bonsor; June 21, 2001 edition, hereinafter referenced as "article", and Altschul et al (U.S. Patent Number 5,875,393), hereinafter referenced as patent "393", and Stephen Mraz of March 1, 2001 edition of **Machine Design**, "Thin, flexible battery needs no case." are made, the combination according to **claim 1**, fails to disclose wherein the switch is a slidable switch.

Kawakami et al teaches in column 3 lines 44-49 of a switch (18) formed in various shapes such as a button switch and a slide switch.

Therefore, at the time of the invention it would have been obvious to a person of ordinary skilled in the art to modify the combined teachings of **Howstuffworks**, "*How Disposable Cell Phones Will Work*" by Kevin Bonsor; June 21, 2001 edition, hereinafter referenced as "article", and Altschul et al (U.S. Patent Number 5,875,393), hereinafter



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referenced as patent "393", and Stephen Mraz of March 1, 2001 edition of **Machine Design**, "Thin, flexible battery needs no case." to further include Kawakami et al (U.S. Patent Number 5,933,783) in order to provide a slidable switch operable in an "on" or "off" mode. When placed in "on" mode, a predetermined number is dial connecting a user to the designated party.

4. **Claims 7, 10-11, and 14-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of "How Disposable Cell Phones Will Work" by Kevin Bonsor; June 21, 2001 edition, hereinafter referenced as "article", Altschul et al (U.S. Patent Number 5,875,393), hereinafter referenced as patent "393", and Stephen Mraz of March 1, 2001 edition of **Machine Design**, "Thin, flexible battery needs no case." in view of applicants admitted prior art.

Regarding **claim 7**, as the above combination "How Disposable Cell Phones Will Work" by Kevin Bonsor; June 21, 2001 edition, hereinafter referenced as "article", Altschul et al (U.S. Patent Number 5,875,393), hereinafter referenced as patent "393", and Stephen Mraz of March 1, 2001 edition of **Machine Design**, "Thin, flexible battery needs no case." are made, the combination according to **claim 1**, fails to disclose wherein the said input and output diaphragm are both paper.

The applicant admits on page 5 lines 5-12, that paper speaker technology in the art can be miniaturized for the purposes of the claimed input (22) and output (24) diaphragms.

Therefore, at the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the combined teachings of **Howstuffworks**, "How Disposable Cell Phones Will Work" by Kevin Bonsor; June 21, 2001 edition, hereinafter referenced as "article", and Altschul et al (U.S. Patent Number 5,875,393), hereinafter referenced as patent "393", Stephen Mraz of March 1, 2001 edition of **Machine Design**, "Thin, flexible battery needs no case.", in view of applicant's admitted prior art in order to specifically denote the material of the said input (22) and output (24) diaphragms as being manufactured with a paper film in be miniaturized to be incorporated therein the said substrate.

Regarding **claim 10**, the article discloses a disposable cell phone comprising:

- a paper substrate, hereinafter referenced as "substrate", (see definition of **paper** in the cited reference *Webster's New Ninth Collegiate Dictionary*) manufactured as a poly-metric material, but later developed into a more practical paper substrate, as discussed in the referenced cited prior art article **Howstuffworks**, "How Disposable Cell Phones Will Work" on page 2.
- a printed circuit pattern on the said paper substrate. See page 1.

However, the article does not disclose a switch electrically coupled to the said circuit. In addition having an input diaphragm and output diaphragm electrically coupled to the said circuit, where both are attached to the said paper substrate in a manner that allows said input diaphragm and output diaphragm to vibrate.

Altschul et al teaches in patent 393:

- of a switch (52) that is coupled to an integrated circuit 70, hereinafter referenced as "circuit", providing a means of allowing a telephone call to be performed when placed in the "on" mode. See column 4 lines 45-60 and in FIGURE 6
- of a microphone assembly (122), which reads on claimed "input diaphragm", which is connected electrically to the said circuit, where the said microphone being attached to the said substrate by a clip connector (174), which in turn, allows the said microphone to, vibrated relative thereto. See column 7 lines 45-54 and FIGURES 14-16.
- of a earphone assembly (122), which reads on claimed "output diaphragm", that is connected electrically to the said circuit, where the said earphone being attached to the said substrate by a clip connector (174) which in turn, allows the said microphone to vibrated relative thereto. See column 7 lines 38-44 and FIGURES 14-16.
- a battery, providing power and connected to the said circuit by a means of an electrical connector, which reads on claimed "battery electrically connected to the circuit". See column 3 lines 54-62.

However, the combination of the article and patent 393 fail to teach of a battery formed in the said paper substrate.

The article "Thin, flexible battery needs no case." in the March 1, 2001 edition of **Machine Design**, reference is made of a battery developed by company Power Paper, Ltd, that is fabricated from proprietary ink-like materials that can be printed, pasted or laminated on almost any substrate, including paper.

Therefore, at the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the combined teaching of *Howstuffworks*, "How Disposable Cell Phones Will Work" by Kevin Bonsor; June 21, 2001 edition, hereinafter referenced as "article", in view of Altschul et al (U.S. Patent Number 5,875,393) to further include Stephen Mraz of the March 1, 2001 edition of *Machine Design*, "Thin, flexible battery needs no case." in order to develop a disposable cellular telephone manufactured out of a paper substrate in which the circuitry, functional components and power supply of the said cellular telephone is incorporated therein to provide a more compact and efficient structure.

However, the combination of the article, patent 393 and Stephen Mraz of the March 1, 2001 edition of *Machine Design*, "Thin, flexible battery needs no case." fails to teach wherein the said input and output diaphragms are a speaker and microphone assembly constructed both of paper.

The applicant admits on page 5 lines 1-12, that paper speaker technology in the art can be miniaturized for the purposes of the claimed input (22) and output (24) diaphragms and that the said input (22) and output (24) diaphragms are acting as a microphone and a speaker.

Therefore, at the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the combined teachings of *Howstuffworks*, "How Disposable Cell Phones Will Work" by Kevin Bonsor; June 21, 2001 edition, hereinafter referenced as "article", and Altschul et al (U.S. Patent Number 5,875,393), hereinafter referenced as patent "393", Stephen Mraz of March 1, 2001 edition of *Machine Design*,

"Thin, flexible battery needs no case.", in view of applicant's admitted prior art in order to specifically denote the material of the said input (22) and output (24) diaphragms as being manufactured as a said microphone and a speaker constructed with a miniaturized paper film to be incorporated therein the said substrate.

Regarding **claim 11**, as claimed in **claim 10**, Altschul et al teaches in patent 393 of an antenna (134), which reads on claimed "filament antenna", which is embedded as part of body of said substrate. See column 7 lines 1-4 and FIGURE 10. Additionally, the said antenna is incorporated therein on the side, which reads on claimed "edge", of the said substrate.

Regarding **claim 14**, as claimed in **claim 10**, the article discloses on page 1-2, where metallic ink is applied to said substrate in the pattern required for the circuit trace.

Regarding **claim 15**, as claimed in **claim 10**, the article on page 2 teaches the said disposable cell phone completed will be 2 inches wide and 3 inches long.

Regarding **claim 16**, as claimed in **claim 10**, the above combination fails to teach the location of the switch, microphone and speaker diaphragms as claimed. However, the examiner asserts that the above limitations would not render the claim patentable over the applied references because they would merely depend on where one would like to place the said switch, microphone and speaker diaphragms on the layer.

Therefore, at the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the combined teachings of *Howstuffworks*, "How Disposable Cell Phones Will Work" by Kevin Bonsor; June 21, 2001 edition, hereinafter referenced as "article", and Altschul et al (U.S. Patent Number 5,875,393), hereinafter referenced as patent "393", Stephen Mraz of March 1, 2001 edition of *Machine Design*, "Thin, flexible battery needs no case." in view of applicant's admitted prior art to denote the location of the said switch, microphone, and speaker in order to evenly distribute the said components along the layers of the card to ensure a practical user-friendly device.

5. **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of *Howstuffworks*, "How Disposable Cell Phones Will Work" by Kevin Bonsor; June 21, 2001 edition, hereinafter referenced as "article", Altschul et al (U.S. Patent Number 5,875,393), hereinafter referenced as patent "393", and Stephen Mraz of March 1, 2001 edition of *Machine Design*, "Thin, flexible battery needs no case." and applicant's admitted prior art in view of Woo (U.S. Patent Number 6,317,086 B1).

Regarding **claim 12**, as the above combination of *Howstuffworks*, "How Disposable Cell Phones Will Work" by Kevin Bonsor; June 21, 2001 edition, hereinafter referenced as "article", Altschul et al (U.S. Patent Number 5,875,393), hereinafter referenced as patent "393", and Stephen Mraz of March 1, 2001 edition of *Machine Design*, "Thin, flexible battery needs no case." and applicant's admitted prior art are made, the

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combination according to **claim 11**, fails to disclose wherein the antenna includes a nub at one end, said nub being operable to extract the antenna from the substrate.

Woo teaches of an antenna (31) which includes a cap (41), which reads on claimed "nub", on the upper part of the said antenna (31), the said cap (41) allows easy extension, which reads on claimed "extract", from the antenna (31). See column 4 lines 60-65 and FIGURE 4.

Therefore, at the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the combined teachings of **Howstuffworks**, "How Disposable Cell Phones Will Work" by Kevin Bonsor; June 21, 2001 edition, hereinafter referenced as "article", Altschul et al (U.S. Patent Number 5,875,393), hereinafter referenced as patent "393", and Stephen Mraz of March 1, 2001 edition of **Machine Design**, "Thin, flexible battery needs no case." and applicant's admitted prior art to further include Woo (U.S. Patent Number 6,317,086 B1) in order to incorporate an antenna with a said cap for easy extraction from the said substrate.

6. **Claim 13** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of **Howstuffworks**, "How Disposable Cell Phones Will Work" by Kevin Bonsor; June 21, 2001 edition, hereinafter referenced as "article", Altschul et al (U.S. Patent Number 5,875,393), hereinafter referenced as patent "393", and Stephen Mraz of March 1, 2001 edition of **Machine Design**, "Thin, flexible battery needs no case." and applicant's admitted prior art in view of Kawakami et al (U.S. Patent Number 5,933,783).

Regarding **claim 13**, as the above combination of **Howstuffworks**, "How Disposable Cell Phones Will Work" by Kevin Bonsor; June 21, 2001 edition, hereinafter referenced as "article", Altschul et al (U.S. Patent Number 5,875,393), hereinafter referenced as patent "393", and Stephen Mraz of March 1, 2001 edition of **Machine Design**, "Thin, flexible battery needs no case." and applicant's admitted prior art are made, the combination according to **claim 10**, fails to disclose wherein the switch is a slidable switch.

Kawakami et al teaches in column 3 lines 44-49 of a switch (18) formed in various shapes such as a button switch and a slide switch.

Therefore, at the time of the invention it would have been obvious to a person of ordinary skilled in the art to modify the combined teachings of **Howstuffworks**, "How Disposable Cell Phones Will Work" by Kevin Bonsor; June 21, 2001 edition, hereinafter referenced as "article", Altschul et al (U.S. Patent Number 5,875,393), hereinafter referenced as patent "393", and Stephen Mraz of March 1, 2001 edition of **Machine Design**, "Thin, flexible battery needs no case." and applicant's admitted prior art to further include Kawakami et al (U.S. Patent Number 5,933,783) in order to provide a slidable switch operable in an "on" or "off" mode. When placed in "on" mode, a predetermined number is dial connecting a user to the designated party.



**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Randy Peaches whose telephone number is (703) 305-8993. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold can be reached on (703) 305-4379. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Randy Peaches  
February 13, 2004

*Marsha D Banks-Harold*  
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